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KIMYO MASHG‘ULOTLARIDA INTERAKTIV O‘YINLARDAN FOYDALANISH

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Annotatsiya
Maqolada kimyo fanlarini o’qitishda interfaol bo’lgan didaktik o’yinlardan foydalanish, didaktik o’yinlarning dars samaradorligiga ta’siri, o’z tavsifidan kelib chiqqan holda didaktik o’yinlar kimyo o’qitish jarayonining turli bosqichlarida qo’llanilishi mumkinligi haqidagi ma’lumotlar keltirilgan. Didaktik o’yinlarga misollar, masalan, savollarni umumlashtirishda metallmas elementlarning kimyoviy birikmalari ustidan sud o’yini, ”Xatoni top”o’yini,” Maydonni to’ldiring” kabi o’yinlar haqidagi ma’lumotlar keltirilgan. Kimyo darslarida didaktik o'yinlardan foydalanish o’tilgan mavzuni oson osonlashtirishga, uni qiziqarli va mazmunli qilishgga va bu oxir-oqibatda materialni yaxshiroq o'zlashtirishga olib keladi, kimyoga qiziqishni shakllantirish va rivojlantirishga yordam beradi.

Kalit so`zlar: didaktik o’yin, estefeta, sxema, genetik, ishbilarmonlik, marafon, komponent, kislota, genetik bog’lanish.

Introduction

In contemporary education, increasing the effectiveness of teaching through the use of modern technologies and interactive methods is gaining growing attention day by day. Until recently, traditional instruction mainly focused on enabling students to acquire ready-made knowledge. Such a conventional approach tended to suppress learners’ independent thinking, creative inquiry, and initiative.

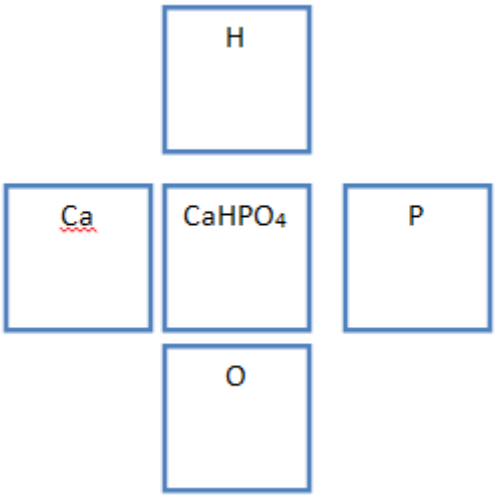
The purposeful use of new computer-based technologies in the teaching–learning process is grounded in specific pedagogical principles. Modern pedagogical technologies, introduced within the framework of the “National Program for Personnel Training,” have marked significant progress in the field of education. Consequently, every educator is entrusted with several key responsibilities—delivering instruction effectively, ensuring proper upbringing, providing objective assessment of learners’ knowledge, and developing professional skills for monitoring and evaluating students’ progress. A teacher of the new century must not only fulfill these responsibilities but also possess qualities that foster innovative perspectives toward the teaching and upbringing process [1,2].

Achieving significant success in learning is possible only when interest in the subject is effectively stimulated [3]. One of the reasons behind the decline in students’ motivation is the limited efficiency of certain traditional teaching methods. Therefore, in this study, we aim to examine several aspects of using didactic games in chemistry lessons.

Given their nature, didactic games can be applied at various stages of teaching chemistry. In learning new material, the "chemical relay" game plays an important role. A scheme of transformations is displayed on a screen or board. For example, when studying genetic relationships among inorganic compounds, students may be given a table-based task:

Me	Asosli oksid	Asos	Tuz	Kislota	Kislotali oksid	Metallmas
Ca →	CaO →	$Ca(OH)_2$ →	$CaCO_3$	←H_2CO_3	←CO_2	←C

Using the table, construct the genetic series of calcium and carbon, and represent the corresponding chemical reactions in the form of balanced equations. The activity is conducted according to the relay-game principle. To develop practical skills, for example, the "chemical steps" game may be used. Students are provided with an incomplete square diagram in which a specific chemical element is written at the center. The entire square must be filled by writing the symbols of related elements to the left, right, top, and bottom of the central element (indices may also be included where appropriate).



In this case, a new formula should emerge as a result of the correspondence. The more chemical elements are included in the substance, the higher the price of this formula. As an example in the retrieval and reinforcement of knowledge, we cite the game on the classification of inorganic compounds. The goal of the game is to strengthen the skills of recognition and classification of inorganic substances. For the implementation of the game, students make colored cards: a red card is acid, a blue card is a base, a yellow card is oxide, a green card is salt.

The starter says the name of the substance, while the students carry a card of the appropriate color.

To summarize the questions, as an example, we consider the court game over the chemical compounds of metallic elements. Its goal is to generalize and systematize concrete materials about metals. The lesson is conducted as a role play, which requires prior preparation in which roles are allocated (arbitration, defense, prosecution and secretary). Students prepare their speeches in consultation with the teacher. During the game, the work of sulfur (IV) oxide, nitric (IV) oxide will be examined, in which the relationship of oxygen and ozone will be examined. The consideration of the issue will be comprehensive, namely from chemical, environmental, economic and medical aspects. All learners are as involved as possible in the work process. Any game is an activity aimed at teaching a person a skill.

On the other hand, the game in the learning process is a model of collective search for the optimal solution to the problem presented in the objective conditions of mutual personal hostility and confrontation. In most cases, business games are also used in teaching, the purpose of which is to implement effective interaction of theoretical knowledge with practical application. There is no definite definition of the business game, the reason for this is that such games are applicable in most industries. But what it has in common is that in order to find the necessary solution, students will have the opportunity to learn professionally.

The components of didactic play and the activities of each component can be shown in the table.

1. Signs of chemical elements are written in the cells of the playing field, some of which are not.

Take it ? Neither
? Zn Ca
K Sr ?

Answer:

1.In the upper and lower rows, the number of electrons at the external energy level of the elemental atoms varies regularly;

2. in the middle row - insignia of the elements of group II;

3. Signs of the elements forming amphoteric oxides and hydroxides are written diagonally from left to right.

Al Mg Na
Ba Zn Ca
K Sr Ga

2. Along the paraimeter of the square there are only the elements of the main subgroups and only the marks of metals; Keep the series going.

Several terms of the series are given. It is necessary to define the appearance of the interchange of objects and to continue the sequence:

a) Li, Al, As, ...

b) F^-, : , Na+, S2-, Ar,:

The answer options are:

(a) Li, Al, As, Ts

b) F^-, Ne, Na+, S2-, De, As2-, Kr, In3-

In the upper and lower rows, the number of electrons in the outer energy level of the element's atoms varies regularly;

3. **Remove the "extra"** formulae.
Below are the "extra" formulas in the lines offered. Find them:
a) NaCl; AgNO3; KCl; KNO3;
b) H2S; CaSO4; HI; $(NH4)_{2S}$.
Answer options are: a) KNO3 and AgNO3; 6) CaSO4.
You can find many such simulator games, for example, here is another option:

4. The "Find the Bug" Game
The purpose of the lesson: To strengthen the concepts of "simple substance", "complex substance", to develop students' attention, to develop the ability to quickly find the right and reject wrong solutions.
Names of simple and complex substances are given. Cards of 5-6 rows.
Assignment. Students are divided into three teams (according to the number of rows of desks in the classroom). Each team receives one card from the teacher. At the teacher's gesture, the players sitting at the first tables find and cut out the wrong names of the elementary and complex items from the first row of the card, pass it on to the students at the second table, who correct the errors. On the second row of the card, the game continues in this way, and so on.
The team that is the first to find and correct all mistakes wins. After the game, the results will be discussed.

A Letter to the Editor **Simple substances**	**Compounds**
• Hydrogen, silver, sulfur oxide	1. Aluminum, oxygen, iron oxide
• Iron sulfide, oxygen, sulfur	2.Silver oxide, copper, iodine
• Hydrogen Chloride, Water, Nitrogen	3.Fluorine, nickel, carbon monoxide
• Calcium oxide, carbon, zinc	4.Sodium chloride, water, sulfur
• Vanadium, aluminum, barium oxide	5. Silicon, iron sulfide, sulfur carbon

Cut out the formula of the substance that does not belong to the class in each line. Explain why?

5. Playing Cards-Tasks "Fill the Field"
Fill the playing field below with the relative molecular weights of the relevant substances.

№	**Substance formula**			**Σ Mr**
1	KOH	$(CuOH)_2C0_3$	H_2S0_4	
2	$KN0_2$	Na_2C0_3	$MgCl_2$	
3	$KMnO_4$	H_3BO_3	$Ca(OH)_2$	

"Noorganik birikmalarning asosiy sinfi" mavzusidagi o'yin kartalari-topshiriqlar pastki o'yin maydonini tegishli moddalar nomlari bilan to'ldiring.

NaOH (CuOH) $_2CO_3$ H_2S0_4

KNO_2 Na_2CO_3 $MgCl_2$

$KMnO_4$ H_3BO_3 $Ca(OH)_2$

Game requirements.

1. The game should be based on students' free creativity and amateur activities.
2. The game should be open, the game goal can be achieved, the design should be colorful.
3. A compelling element of every game is its emotionality. The game should be enjoyed by the students; the cheerful mood should generate satisfaction from a successful response.
4. Moments of rivalry between teams or individual participants in the game are mandatory in the Games.

Many didactic games do not seem to bring anything new to the knowledge of schoolchildren, but they are of great benefit in that they teach students to apply knowledge in new conditions or to put on a mental task, the solution of which requires the manifestation of activity.

The use of didactic games in chemistry lessons simplifies the learning process, makes it interesting and meaningful, which ultimately leads to better mastery of the material, helps to form and develop interest in chemistry.

In practical work, we often use game technology. We think that didactic games do not completely replace traditional forms of education, but complement them, and such a combination makes it possible to properly organize the educational process at school.

Thus, "games on objects" or "didactic games" play an important role in this work. This explains the growing interest of students in chemistry classes.

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